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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: S. WU *et al.*

Attorney Docket No: 20002.0263

Application No.: 10/256,011

Group Art Unit: 1712

Filed: September 27, 2002

Examiner: D. Buttner

For: THIN-LAYER-COVERED GOLF BALL WITH IMPROVED VELOCITY

CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that the following correspondence for Application No. 10/256,011 is being facsimile transmitted to the United States Patent and Trademark Office at (703) 872-9306 (official fax number) on May 25, 2004.

1. Transmittal (1 page)
2. Fee Transmittal & copy (2 pages - 1 original, 1 copy)
3. Response to Office Action (10 pages)
4. Terminal Disclaimer (2 pages)
4. Change in Attorney Docket Number (1 page)
6. Certificate of Transmission (1 page)

Total Pages Submitted: 17



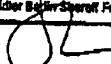
John P. Mulgrew, Reg. No. 47,809

PTO/SB/21 (06-03)
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TRANSMITTAL FORM <small>(to be used for all correspondence after initial filing)</small>	Application Number	10/256,011	
	Filing Date	September 27, 2002	
	First Named Inventor	S. WU	
	Art Unit	1712	
	Examiner Name	D. Buttner	
Total Number of Pages in This Submission	10	Attorney Docket Number	20002.0263

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> For Transmittal Form (duplicate) <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input checked="" type="checkbox"/> Change in Attorney Docket Number <input checked="" type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) <small>(please identify below):</small> Certificate of Transmittal
<div style="border: 1px solid black; width: 100px; height: 20px; float: left; margin-bottom: 5px;"></div> Remarks		

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 110

Complete if Known

Application Number 10/258,011
 Filing Date September 27, 2002
 First Named Inventor S. WU
 Examiner Name D. Bulmer
 Art Unit 1712
 Attorney Docket No. 30002.0283

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money ☐ Other ☐ None
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FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	830	2003	285	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	180	2005	80	Provisional filing fee	
SUBTOTAL (1)					110

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	86	2201	43	Independent claims in excess of 3	
1203	290	2203	145	Multiple dependent claim, if not paid	
1204	85	2204	43	Reissue independent claims over original patent	
1205	18	2205	9	Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					310

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	170	2051	85	Surcharge - late filing fee or cash	
1052	80	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	2053	130	Non-English specification	
1012	2,820	2012	2,820	For filing a request for reexamination	
1804	820*	1804	820*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	430	2252	210	Extension for reply within second month	
1253	850	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,610	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	380	2403	145	Request for oral hearing	
1481	1,810	1451	1,910	Petition to institute a public use proceeding	
1482	118	1452	55	Petition to revive - unavailable	
1483	1,320	1453	885	Petition to revive - unintentional	
1501	1,320	2301	660	Utility issue fee (for reissue)	
1502	480	2302	240	Design issue fee	
1503	640	2303	320	Plant issue fee	
1490	130	1490	130	Petitions to the Commissioner	
1807	80	1807	60	Processing fee under 37 CFR 1.17 (g)	
1808	180	1808	180	Submission of Information Disclosure Sheet	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	770	2810	385	For each additional invention to be combined (37 CFR § 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	800	1802	800	Request for expedited consideration of a design application	

Other fee (specify) Yielding Disclosure

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SUBTOTAL (3) 110

*For number previously paid, if greater, For Refunds, see above

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003, Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 110

Complete if known

Application Number 10/256,011

Filing Date September 27, 2002

First Named Inventor S. WU

Examiner Name D. Botner

Art Unit 1712

Attorney Docket No. 20002.0283

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money ☐ Other ☐ None

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity	Small Entity	Fee Code	Fee Code	Fee Description	Fee Paid
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	600	2003	265	Plant filing fee	
1004	770	2004	385	Release filing fee	
1005	150	2005	80	Provisional filing fee	

SUBTOTAL (1)

(3) 0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	0	0	0
Multiple Dependent	0	0	0

Large Entity	Small Entity	Fee Code	Fee Code	Fee Description	Fee Paid
1202	15	2202	9	Claims in excess of 20	
1201	80	2201	43	Independent claims in excess of 8	
1203	290	2203	146	Multiple dependent claims, if not paid	
1204	88	2204	43	Reissue independent claims over original patent	
1205	18	2205	9	Reissue claims in excess of 20 and over original patent	

SUBTOTAL (2)

(5) 0

**or number previously paid, if greater. For Reissue, see above

3. ADDITIONAL FEES

Large Entity	Small Entity	Fee Code	Fee Code	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or cash	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,630	1812	2,630	For filing a request for reconsideration	
1804	920	1804	920	Requesting publication of SR prior to Examiner action	
1805	1,940	1805	1,940	Requesting publication of SR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	880	2253	475	Extension for reply within third month	
1254	1,460	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,610	1451	1,610	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavailability	
1453	1,330	2453	665	Petition to revive - unintentional	
1801	1,300	2501	650	Utility issue fee (for release)	
1502	480	2502	240	Design issue fee	
1503	840	2503	420	Plant issue fee	
1480	130	1480	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17 (g)	
1808	180	1808	180	Submission of Information Disclosure Sheet	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	770	2501	385	Request for Continued Examination (RCE)	
1802	800	1802	800	Request for expedited examination of a design application	

Other fee (specify) Terminal Discharge

110

Reduced by Basic Filing Fee Paid

SUBTOTAL (3)

(3) 110

SUBMITTED BY

Name (Print/Type)	Registration No. (Assigned/Spec)	Telephone	Date
John P. Myer	47,800	202 424-7758	May 25, 2004

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MAY 25 2004

OFFICIAL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: S. WU *et al.*

Attorney Docket No: 20002.0263

Application No.: 10/256,011

Group Art Unit: 1712

Filed: September 27, 2002

Examiner: D. Buttner

For: THIN LAYER-COVERED GOLF BALL WITH
IMPROVED VELOCITY

RESPONSE TO OFFICE ACTION

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

In response to the office action mailed February 25, 2004, Applicants submit the following amendments and remarks for entry and consideration during the examination of the above-identified application.

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A golf ball comprising:
a center comprising a material formed from the conversion reaction of at least a cis-to-trans catalyst and a polybutadiene, wherein the material has a molecular weight of greater than about 200,000 and a resilience index of at least about 40;
an inner cover layer; and
an outer cover layer disposed about the inner cover layer comprising a polyurethane composition.
2. (Original) The golf ball of claim 1, wherein the inner cover layer comprises at least one of an ionomer resin, a polyurethane, a polyetherester, a polyetheramide, a polyester, a dynamically vulcanized elastomer, a functionalized styrenebutadiene elastomer, a metallocene polymer nylon, acrylonitrile butadiene-styrene copolymer, or blends thereof.
3. (Currently Amended) The golf ball of claim 1, wherein the resilience index of the material is at least about [[40]] 50.
4. (Original) The golf ball of claim 1, wherein the cis-to-trans catalyst comprises at least one of an organosulfur compound, an inorganic sulfur compound, an aromatic organometallic compound, a metal-organosulfur compound, tellurium, selenium, elemental sulfur, a polymeric sulfur, or an aromatic organic compound.
5. (Original) The golf ball of claim 1, wherein the polyurethane composition comprises at least one isocyanate, at least one polyol, and at least one curing agent.
6. (Original) The golf ball of claim 1, wherein the outer cover layer has a thickness of about 0.02 inches to about 0.04 inches.
7. (Original) The golf ball of claim 1, wherein the inner cover layer has an outer diameter of

about 1.55 inches or greater.

8. – 20. (Canceled)

21. (Currently Amended) A golf ball comprising:

a center formed of a reaction product comprising polybutadiene and a cis-to-trans catalyst, wherein the reaction product has a molecular weight of greater than about 200,000, and wherein the reaction product comprises greater than about 32 percent trans-isomer;

an inner cover layer;

an outer cover layer disposed around the inner cover layer, wherein the outer cover layer comprises a castable reactive liquid material.

22. (Original) The golf ball of claim 21, wherein the inner cover layer comprises an ionomer resin, a polyurethane, a polyetherester, a polyetheramide, a polyester, a dynamically vulcanized elastomer, a functionalized styrenebutadiene elastomer, a metallocene polymer nylon, acrylonitrile butadiene-styrene copolymer, or blends thereof.

23. (Original) The golf ball of claim 21, wherein the inner cover layer comprises a copolymer of ethylene and an unsaturated monocarboxylic acid, wherein the monocarboxylic acid is at least partially neutralized.

24. (Original) The golf ball of claim 23, wherein the monocarboxylic acid is fully neutralized.

25. (Original) The golf ball of claim 21, wherein the outer cover layer has a thickness of about 0.02 inches to about 0.04 inches and the inner cover layer has an outer diameter of about 1.55 inches or greater.

26. (Original) The golf ball of claim 21, wherein the castable reactive material comprises a prepolymer having less than about 14 percent unreacted isocyanate groups, and wherein the

prepolymer is cured with a polyol, polyamine, or a mixture thereof.

27. (Original) The golf ball of claim 21, wherein the cis-to-trans catalyst comprises at least one of an organosulfur compound, an inorganic sulfur compound, an aromatic organometallic compound, a metal-organosulfur compound, tellurium, selenium, elemental sulfur, a polymeric sulfur, or an aromatic organic compound.

28. (Original) The golf ball of claim 21, wherein the reaction product has a molecular weight of about 300,000 or greater.

Please add the following new claims:

29. (New) A golf ball comprising:

a center comprising a material formed from the conversion reaction of at least a cis-to-trans catalyst and a polybutadiene, wherein the material has a molecular weight of greater than about 200,000 and a resilience index of at least about 40;
an inner cover layer; and
an outer cover layer disposed about the inner cover layer comprising a castable reactive liquid material.

30. (New) The golf ball of claim 29, wherein the cis-to-trans catalyst comprises an organosulfur compound.

31. (New) The golf ball of claim 30, wherein the cis-to-trans catalyst is present in an amount sufficient to result in the material comprising greater than 32 percent trans-polybutadiene isomer.

32. (New) The golf ball of claim 31, wherein the cis-to-trans catalyst is present in an amount from about 0.1 to 5 parts per hundred based on the total material.

33. (New) The golf ball of claim 29, wherein the resilience index is at least about 50.

34. (New) The golf ball of claim 29, wherein the inner cover layer has a hardness of about 50

to about 75 Shore D.

35. (New) The golf ball of claim 29, wherein the castable reactive liquid material has a material hardness of about 30 Shore D to about 60 Shore D.

REMARKS

Claims 1-28, as amended, and new claims 29-35 are pending in this application. In this Response, Applicants have amended certain claims. In light of the Office Action, Applicants believe these amendments serve a useful clarification purpose, and are desirable for clarification purposes, independent of patentability. Accordingly, Applicants respectfully submit that the claim amendments do not limit the range of any permissible equivalents.

In particular, independent claim 1 has been rewritten to include the features previously recited in dependent claim 3. Claim 3 has been amended to further define the resilience index. Independent claim 21 has been rewritten to recite that the reaction product has a trans-polybutadiene isomer content of greater than about 32 percent, which is supported by the Specification at Page 17, lines 32-35.

New claims 29-35 have been added to recite additional embodiments of the present invention and are supported by the present Specification as follows:

Claim(s)	Support in Specification
29	Original claims 1-3, and 28 Page 25, line 33 to Page 26, line 2
30	Original claim 4
31	Page 17, lines 32-35
32	Page 19, lines 2-4
33	Page 32, lines 29-30
34	Page 34, lines 3-4
35	Page 33, line 27 to Page 34, line 3

As no new matter has been added, Applicants respectfully request entry of these amendments at this time.

RESTRICTION REQUIREMENT

In response to the Restriction Requirement imposed by the Examiner, the Applicant hereby confirms election of Group I (claims 1-7 and 21-28) for prosecution in this application. As a result of the present claim cancellations and additions, however, Group I now includes claims 1-7 and 21-35. In light of the cancellation of claims 8-20, Applicant respectfully submits that the Restriction Requirement is moot.

THE REJECTIONS UNDER 35 U.S.C. §§ 102 & 103**Moriyama '396 Does Not Anticipate or Render Obvious the Present Invention**

Claims 1-2, 4, and 6-7 were rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under § 103(a) as obvious over U.S. Patent No. 5,980,396 to Moriyama *et al.* for the reasons set forth on page 3 of the Office Action. In addition, claims 1-2 and 4-7 were rejected under § 103(a) as obvious over Moriyama '396 in view of U.S. Patent No. 6,117,024 to Dewanjee as provided on page 3 of the Office Action. Moriyama '396 alone, or in combination with Dewanjee, does not disclose or suggest the present invention for the reasons that follow.

The objective of Moriyama '396 is to provide long flight distance and good shot feel. Col. 1, lines 35-37. To achieve this objective, Moriyama '396 proposes a four-piece golf ball with a vulcanized rubber center, a thermoplastic or vulcanized outer core layer, a vulcanized rubber or thermoplastic intermediate layer, and a thermoplastic outer cover layer. *See, e.g.*, Col. 2, lines 10-19 and 30-54. of Abstract. This selection of materials is arranged to provide a soft-hard-soft-hard from the center to the cover. Col. 2, lines 15-19.

Moriyama '396 is silent, however, as to the resilience index of the center material, as presently recited in independent claim 1 and new independent claim 29. One of ordinary skill in the art would not have been motivated to form the center presently recited from the teachings of Moriyama '396 without the improper use of hindsight. As such, Applicants respectfully submit that Moriyama '396 does not anticipate or render obvious the invention presently recited in claims 1-2, 4, and 6-7.¹

The Combination of Moriyama '396 and Dewanjee Does Not Render Obvious the Present Invention

Because Moriyama '396 does not disclose specific teaching regarding a polyurethane outer cover layer, the Examiner relies on Dewanjee for its disclosure of polyisocyanates, polyols, and curing agents. Dewanjee, however, does not cure the deficiencies of Moriyama '396 with respect to the resilience index now recited in independent claim 1. In fact, Dewanjee, like Moriyama '396, is completely silent as to a resilience index of the core material. Thus, Applicants respectfully submit

¹ It appears that the Examiner also recognizes the deficiencies of the cited references with respect to the resilience index of the center material in light of the absence of §§ 102 and 103 rejections of claim 3, as previously recited.

that the combination of Moriyama '396 and Dewanjee does not result in the present invention, nor does it render obvious the present invention.

For the reasons discussed above, Moriyama '396 alone, or in combination with Dewanjee, does not disclose or suggest the invention presently recited in independent claim 1, and those claims depending therefrom. Thus, Applicants respectfully request reconsideration and withdrawal of the §§ 102 and 103 rejections based on the cited references.

Sullivan and Moriyama '856 Do Not Render Obvious the Present Invention

The Examiner also rejected claims 1-2, 4, 6-7 and 21-28 under § 103(a) as obvious over U.S. Patent No. 6,210,293 to Sullivan in view of U.S. Patent No. 5,697,856 to Moriyama *et al.* for the reasons stated on pages 3-4 of the Office Action.

Similar to Moriyama '396, Sullivan does not disclose or suggest a center material with a resilience index as presently recited in independent claim 1. As above, it appears that the Examiner agrees with this assessment in light of the lack of substantive rejections of this subject matter (previously recited in dependent claim 3). Moriyama '856 does not remedy this deficiency because the reference also lacks any mention of the resilience index of the center material. In fact, the Examiner appears to rely on Moriyama '856 solely for its disclosure of catalyst. Office Action at Page 4).

Moreover, Sullivan does not disclose or suggest the invention recited in independent claim 21. Independent claim 21 now recites a reaction product having a trans-polybutadiene isomer content of greater than about 32 percent. Because Sullivan is completely silent as to a cis-to-trans catalyst, the Examiner has relied upon Moriyama '856 for its disclosure of catalyst. However, Moriyama '856 teaches that the trans structure after vulcanization *must* be within the range of 10 percent to 30 percent. Col. 3, lines 27-29 (emphasis added). In fact, the reference *teaches away* from the claimed amount of trans-polybutadiene isomer in stating that "when the amount of trans structure exceeds 30%, the core is too soft and the resilience performances are deteriorated." Col. 3, lines 31-33. Thus, one of ordinary skill in the art would have lacked any motivation to stray outside of the range disclosed in Moriyama '856 without the present invention to use as a template. As such, the combination of Sullivan and Moriyama '856 does not render obvious the invention presently recited in claim 21.

With regard to the Examiner's rejections of the claims depending from independent claims 1 and 21, Applicants respectfully submit that these claims are patentable at least by virtue of their dependency from allowable subject matter.

For the reasons set forth above, Applicants respectfully submit that no combination of Sullivan and Moriyama '856 discloses or suggests the present invention. Consequently, Applicants respectfully request reconsideration and withdrawal of the rejections based thereon.

THE DOUBLE PATENTING REJECTION

The Examiner rejected claims 1-7 and 21-28 under the judicially created doctrine of obviousness-type double patenting as obvious over claims 1-50 of the U.S. Patent No. 6,486,261 to Wu *et al.* Applicants submit herewith a Terminal Disclaimer in compliance with 37 C.F.R. § 1.321(c) in order to overcome the double patenting rejections based on the Wu '261 patent. As such, Applicants respectfully request that the double patenting rejection be withdrawn.

NEW CLAIMS ADDED WITH THIS RESPONSE

Applicants respectfully submit that independent claim 29, and those depending therefrom, are allowable for similar reasons as discussed above. Like rewritten independent claim 1, independent claim 29 also recites a resilience index for the center material, which is lacking from the cited references.

Furthermore, the dependent claims are independently patentable. For example, dependent claim 31 recites a trans-polybutadiene isomer content of the reaction product of greater than about 32 percent. Neither Moriyama '396 nor Sullivan disclose or even suggest a trans-polybutadiene isomer content, as presently recited. Furthermore, as discussed above, Moriyama '856 teaches away from the claimed amount of trans-polybutadiene isomer content.

Therefore, Applicants respectfully submit that new claims 29-35 are in condition for allowance.

CHANGE IN ATTORNEY DOCKET NUMBER

A Request for Change in Attorney Docket Number is submitted herewith to change the docket number from 20002.0025A to 20002.0263.

CONCLUSION

All claims are believed to be in condition for allowance. If the Examiner believes that the present amendments still do not resolve all of the issues regarding patentability of the pending claims, Applicants invite the Examiner to contact the undersigned attorneys to discuss any remaining issues.

A Fee Sheet Transmittal is submitted to pay for the Terminal Disclaimer. No other fees are believed to be due at this time. Should any fee be required, however, please charge such fee to Swidler Berlin Shereff Friedman, LLP Deposit Account No. 195127, Order No. 20002.0263.

Respectfully submitted,
SWIDLER BERLIN SHEREFF FRIEDMAN, LLP

Dated: May 25, 2004

By: 

John P. Mulgrew, Registration No. 47,809
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